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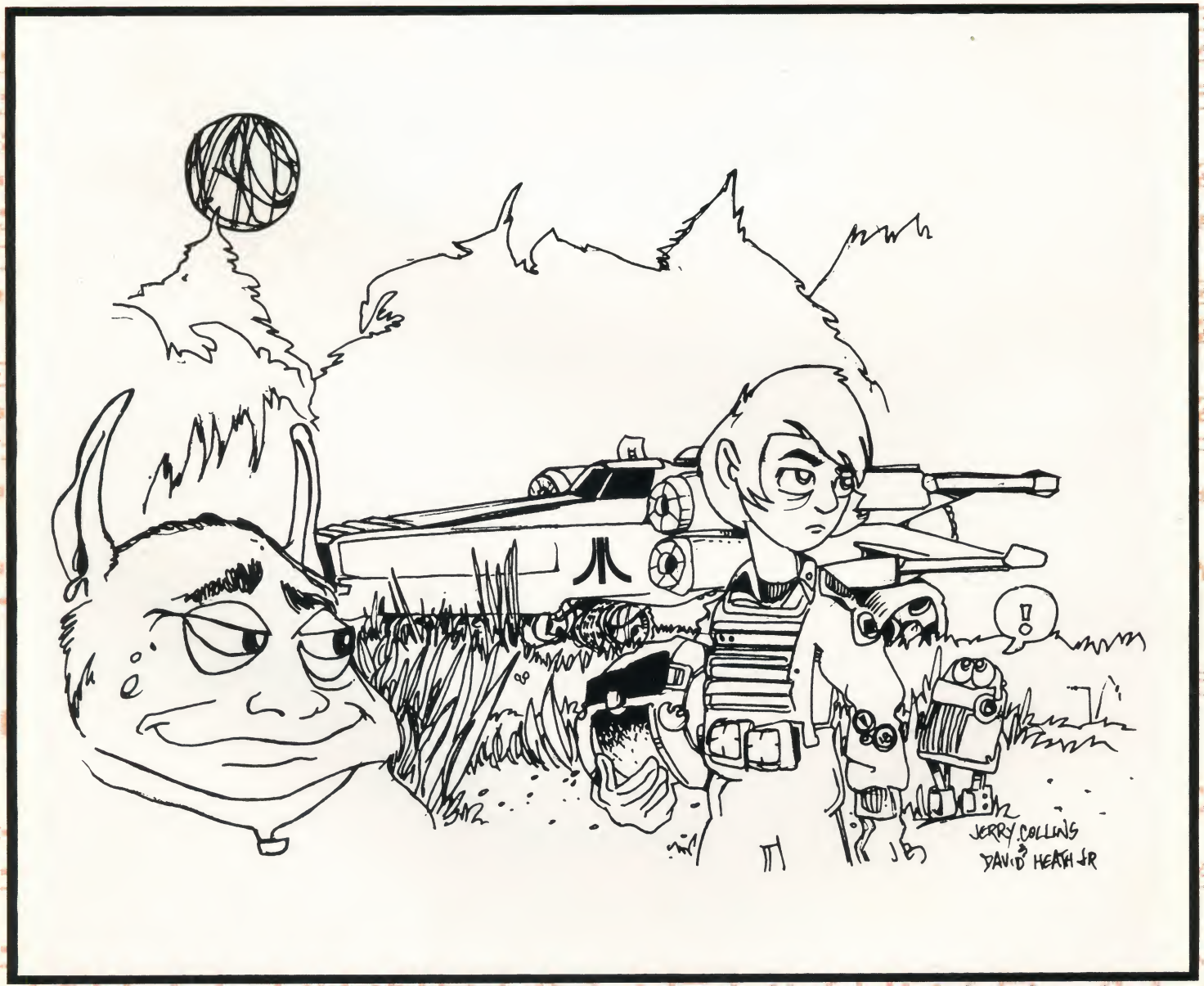
M.A.C.E. JOURNAL

"People For Computers"



RUMOR MILL

As we go to press, reliable sources in Sunnyvale report that Atari will introduce at least two, and possibly four new home computers at the Consumer Electronics Show in June.

The big bombshell will be the introduction of the Atari 600XL home computer, sporting a full stroke keyboard and built in Basic language. The 600XL will come with 16K of memory standard, and will be expandable to 64K. The operating system will be completely compatible will all available software. The list price of $149.95 will make the 600XL the low-end microcomputer to beat. Adios VIC-20, and put up your dukes Commodore 64!

Latest marketing estimates predict twenty-three million families will own home computers by the end of the year, with the majority of systems sold this year in the under two-hundred dollar ballpark.

Both the 400 and 800 will be discontinued after present supplies run out. The word is that new production of these machines has been halted. The fifty and one hundred dollar rebates being offered on the 400 and 1200XL respectively, will be joined by a hundred-dollar-back offer on the 800 this month. The current promotions have created after rebate prices as low as seventy eight dollars for 400's!!

Not as much solid information is available on the new 800XL system. Rumor pegs it at 64K, expandable to 192K, and priced at $299.95. A new model 1050 disk drive with a low-profile design ala' 1200XL will debut at $450 along with a model 1027 (letter quality?) printer.

Information on two other machines is largely conjecture at this point in time. Rumored to be 64K machines with built in modems and speech synthesis, the model numbers bandied about most often are 1201XL and 1251XL, with 1400XL and 1450XL running a close second. One of the units is reputed to sport an integrated disk drive to boot (pun intended).

Will the newly announced Atari telecommunications division take the wraps off of Project Falcon at the show? Maybe yes, maybe no. The new product has been described in various quarters as a combination telephone and videotex unit with built-in modem, speech synthesis and recognition, and Atari's own version of a BSR-X10 type home appliance controller.

On the second source front, no one has seen anything other than a mockup of the highly touted Atari compatible Rana disk drive. It may be as late as July or August before they start to trickle out of the factory.

Watch for a new version of Synapse Software's popular File Manager Plus package, completely rewritten in Forth. Should alleviate the occasional complaints about the lack of speed of the current Basic version.

Activision will jump into the Atari home computer market this fall with cartridge based games. Steve Cartwright and friends are betting that lightning strikes their balance sheet twice.

Whatever does materialize, you'll find complete info in the June CES issue of MACE Journal as well as our exciting color coverage of the show at the next General Membership meeting on May 21st. See you there!

APOLOGIES

Due to a higher than anticipated demand for the last three issues of MACE Journal, some of the user groups on our exchange list did not receive copies of those newsletters. We have increased our production to cover everyone now, and regret any inconvenience we have caused our out-of-state friends.

TARICON '83
CONVENTION STATUS REPORT

by Paul Wood
TariCon '83 Convention Chairman

This is the first of what is intended to be a regular column in the Journal on the status of MACE's first convention, TariCon '83. The column will give the members of MACE one place to look for information on the upcoming convention.

Basic Information

TariCon '83 will be held in the Southfield Pavilion on Saturday and Sunday October 22 and 23, 1983. There will also be a few opening events, such as the opening banquet, on Friday the 21st. Fees will be minimal for members and will be announced in the next issue.

We will be using essentially the whole Civic Center for the entire weekend. Exhibits will be in the large room where we have our monthly MACE meetings. In addition, we have available 6-7 seminar rooms that seat from 20 to 250 people each. We will also be using the hallways on the main floor outside the meeting room for such activities as the food concession, demonstrations, tournaments, and possible exhibitor expansion.

Although we have yet to start our publicity campaign, word of the convention has spread throughout Ataridom. People from user groups all over the country have promised to attend. And we have already received commitments from Atari and several software companies to bring exhibits to the convention.

Convention Committee

Now that you have the basics on the convention, perhaps a bit of my background is appropriate at this point. I have been the Chairman of gaming conventions run by Metro Detroit GAmers for over 10 years. MDG has racked up 22 conventions so far with attendance of up to 4,000 people and schedules with over 250 events. MACE has an excellent organizational structure but the officers felt someone was needed who had past convention experience. Since convention management seems to be in my blood, I volunteered, providing the officers agreed to extend their normal duties to also cover similar duties for the convention. This was agreed to and we have been fortunate to fill most of the important convention positions with MACE officers, with a few MDG people (who also happen to own Atari's and belong to MACE) being brought in to fill some of the other important spots.

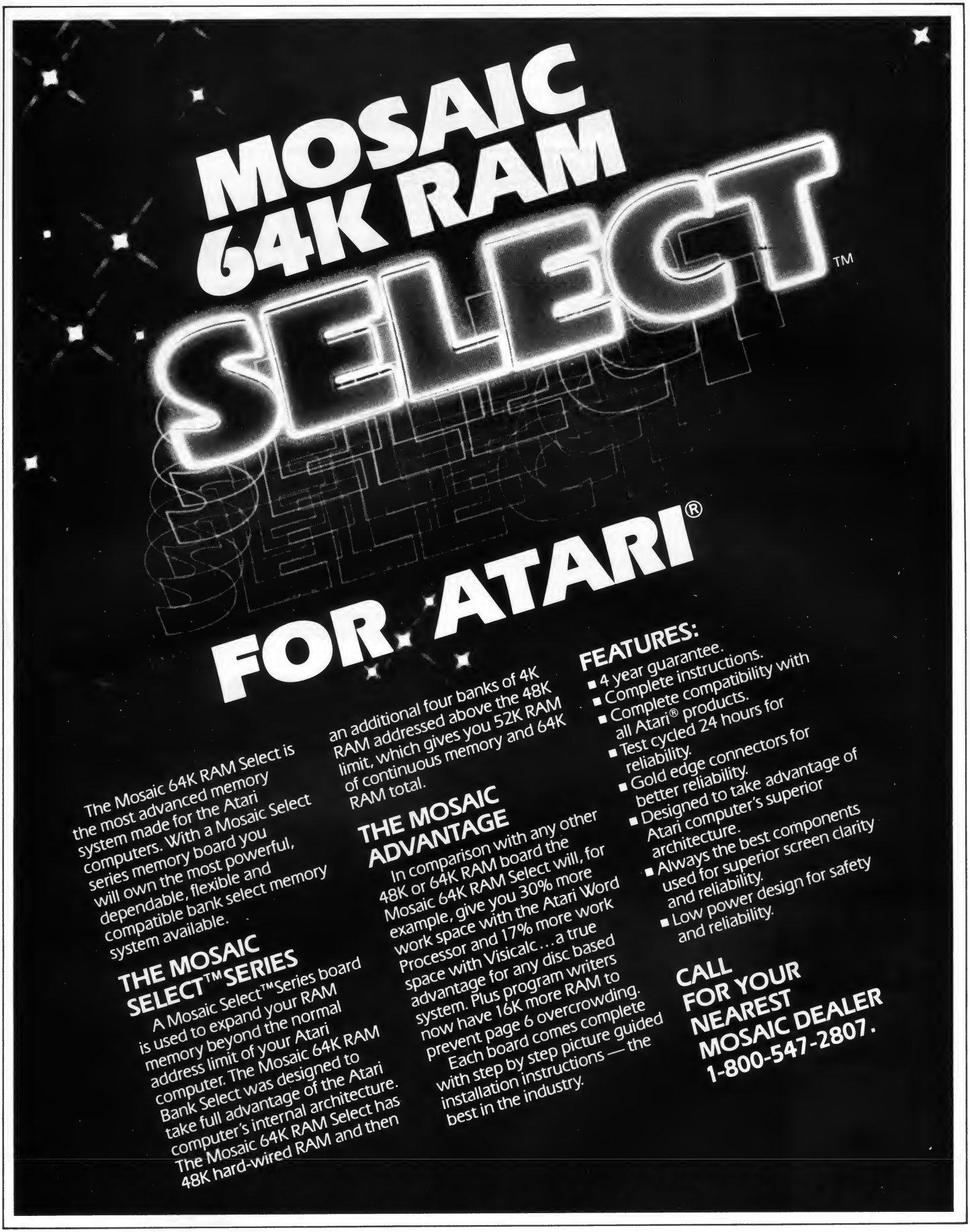
The Convention Committee, as it is structured so far, looks like this:

Jerry Aamodt - Advertising (temp)
Bill Black - Committee minutes
Steve Cooper - Site Coordinator, Lodging, Banquet, Party
Mike Lechkun - Correspondence and Pre-Registration
Sheldon Leemon - Celebrity Coordinator
Arlan Levitan - Editor:Program Book and Pre-Registration Flyer
Jim Phillips - Finances, Budget
Bill Somers - Exhibits Coordinator and Supervision of Events and Publicity
Erick Wujcik - Events Coordinator
Librarians - Seminars on libraries and library product sales
SIG Managers - Seminars on SIGs

We are fortunate to have lined up such a strong staff so quickly. From having worked with these people over the last few months, I feel real confident that we will be able to put on a very fine convention.

Open Staff Positions

There are a few important positions we still need to fill, however, and I'm hoping that there are people out there with the proper experience who will be willing to help us in these areas. The first position we lack is a publicity coordinator -- someone who is able to put together a comprehensive promotional/advertising campaign for the convention. We have people on the staff now who can do this, but they are tied up doing other work for the convention. To do it right, we need someone with responsibility for this alone. The person selected will work with the convention committee to map out a publicity campaign and then take care of all the details -- getting ad rates, composing ads, getting them typeset, making mailings to our publicity list, and doing all the other things it takes to promote a convention of this



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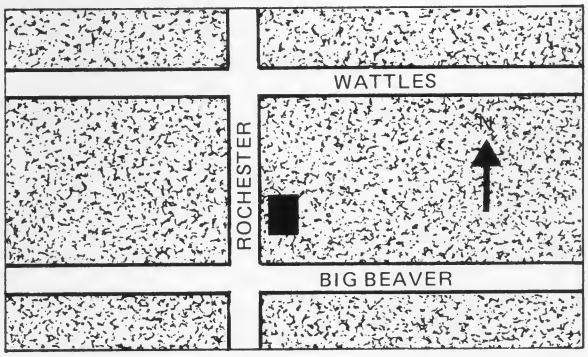

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scope.

Another important position we have yet to fill is that of Personnel Manager. This calls for someone with a lot of contacts within MACE and who has the skill to convince a lot of people to start paying back the debt they owe to the club by working on the convention. The person we are looking for will ideally have been in MACE for several years, knows how it works, and knows lots of people.

We need help in other areas too. Those people with personal contacts with designers, software companies or service companies would be excellent contacts for us to use when trying to line up exhibitors and seminars. In addition, we will need to put our hands on a lot more equipment than we typically use at our normal monthly meetings. We may need to have a computer, a disk drive, and either a projection TV or two monitors in each seminar room. We cannot expect each person who will be giving a seminar to bring his or her own equipment. We need to find someone who can either lend us the equipment or lead us to a cheap rental source. This is especially crucial to our events program.

We will be identifying more positions that need filling as our planning progresses. MACE's membership is so diversified that I can't help but believe we can find almost any type of person we need from our own ranks. If you can help with any of these jobs, please contact us. The convention belongs to all of us and will only be as good as the level of membership participation permits it to be.

Thanks to Volunteers

I would like to personally thank all those who responded to my call for help at the March general meeting. I was really impressed with the number and quality of help that was volunteered. We have already begun to use several of you. If you volunteered that night but have not been contacted by anyone yet, we'll get to you. Many of the kinds of workers I asked for are not needed until later convention planning stages. So don't worry; we will be using everyone of you.

Exhibit Area

For now, we are intending to put all the exhibit booths in the pavilion hall that we use for our general meetings. This should hold about 60 8' x 8' booths, which will be draped and have covered tables. If we nned to, we could take the walls down and spread the exhibit hall into the hallways, but this would create a lot of problems with controlling access to the convention. The committee has begun writing the package of material that will go out to prospective exhibitors. That information should be in the mails by the end of May. If you want to exhibit or know someone who does, contact us for exhibitor information at the MACE P.O. Box number.

MACE will have booth space in the exhibit hall and we plan to have plenty of our popular products on hand for sale to attendees. We will soon be stocking up on disks, cassettes, T-shirts, MACE Journal back issues and membership cards. AS usual, MACE members will receive good discounts on all our merchandise.

Other Information

That's about all for now. I will be reporting again next month with more news and hopefully some information on who some of our seminar speakers will be. Those who want to volunteer for any of the jobs listed above (or other work), those who want to give a seminar or have ideas for good topics, and companies wanting more details on exhibit booths should call the MACE hotline and leave a message or write to the convention committee at: TariCon '83 Convention Committee, c/o MACE, P.O. Box 2785, Southfield, MI 48037. Please be sure to give us your name, telephone number and a short description of what you need and/or are volunteering.

Lots of work has been done already but there's much more to come. We've got the makings of a great convention; all we need is the help of the members to make it work. The convention committee feels so strongly about the convention's success that we've reserved the third weekend at the Southfield civic Center for the next five years. Let's all get together to make this convention one we'll be talking about for years to come.

POKEY PLAYER NOTES

by Craig R. Chamberlain

POKEY PLAYER is a set of programs that can be used to add music to your own ATARI BASIC programs. The music can be played simultaneously with program execution - while your program is doing other things such as drawing pictures on the screen. POKEY PLAYER has special features not found in commercially available music programs:

* It is specifically designed to be merged with ATARI BASIC.

* The joystick is used to enter and edit notes.

* Notes are displayed in two forms; on a grand staff, and as piano keys.

* White noise can be used to produce a snare drum effect.

* Each note has an automatic decay for a nicer sound.

* Repeats can be used for note duplication without using extra memory.

* A range of eight octaves is available.

* The tempo can be changed while a piece is playing.

* An average of only one byte is used for each note.

With all these features and more, POKEY PLAYER is quite capable of producing some good music.

The POKEY PLAYER music system was originally published in SoftSide magazine. MACE was granted special permission to include the programs in the library. The programs on the MACE library disk are the most up to date versions available.

EDITOR

This version includes the latest commands PPPARM, PPOFST, and PPSTAT, plus faster initialization.

DCOMP

This version of the compiler produces disk data files instead of DATA statements.

DPLAYER

This version quickly reads the disk data files produced by DCOMP. This program is an updated version of PLAYER II (it runs on the vertical blank), and can be merged with your own programs.

Several demonstration tunes are now available:

BLUES a basic blues bass line with demonstration of snare drum, by Craig Chamberlain

HBDAY a cute version of Happy Birthday, with a snare drum (using PPPARM) and the frequency offset (PPOFST)

SCIPIO Handel's March from Scipio, with tempo ritard, courtesy of Harry Bratt

CAPRICIO Handel's March from Capriccio, with trills, courtesy Harry Bratt

MUSETTE Bach's Musette in D Major, using only two voices and the staccato effect, entered by Craig Chamberlain

LONDON the traditional Irish melody Londonderry Air, with retard, entered by Craig Chamberlain

FACE the Beatles tune I've Just Seen a Face, courtesy Howard Ship

YESTERDY the Beatles hit YESTERDAY, courtesy Howard Ship

BEE Rimsky-Korsakov's Flight of the Bumblebee, courtesy Howard Ship

TEXAS The Yellow Rose of Texas, courtesy Tom Sturza

BUMBOOG or Bumblebee Boogie, an interesting diversion on the Flight of the Bumblebee, courtesy Mike Taylor

ROCKCAS courtesy Mike Taylor

DETAILS, DETAILS

Here are some suggestions so you will have better success using POKEY PLAYER.

The first command on voice one should always be a PPTEMP to set the tempo.

Always put a PPSTOP command at the end of the first voice, and follow it with a quarter rest.

An extra quarter rest is required at the end of voices two and three.

The primary voice must be the third voice.

Do not let the program stop while the vertical blank patch is still in effect. Information on how to disable this patch is given later.

Remember, the PLAYER plays exactly three voices, and the first two are secondary (only a six octave range). The PLAYER cannot play just one voice.

If you want to play only one voice, for the other two voices enter a PPHEAD with repeat count of zero (forever), a whole rest, and PPTAIL.

CONVENTIONS

When using the old format with DATA statements, start the DATA lines for the first voice at 3100 and step by 2 (3102, 3104, etc.). The second voice starts at 3200, and so on. With the new format for disk files, the filename format is to use the extender .S1 for the source of voice one (the part used with the EDITOR) and .V1 for the voice one object code (used by the PLAYER). Use .S2 and .V2 for voice two, and so on.

DOCUMENTATION

It is not expected that anybody would be able to use POKEY PLAYER without first reading the documentation published in SoftSide. Sorry, but MACE can not reprint this without violation of copyright. However, if you like the music you have heard demonstrated at MACE meetings using POKEY PLAYER, it's certainly worthwhile to pick up back issues of SoftSide if you do not have them. Here is a reference to the three parts that have been published.

SoftSide #34 November 1982

Part One described the basic features of the system, and the three step process to create music. It showed how the EDITOR can be used to enter, insert, and delete notes of various durations (including dots), with options including tie/slur and rest. Also described were editing features to go to the beginning or end of a note sequence, and how to save and load the voice to or from a cassette or disk. The special commands introduced were PPHEAD to start a repeat, PPTAIL to end a repeat, PPTEMP to set or change the tempo, and PPSTOP to mark the end of a voice. The compilation process was described, telling how the COMPILER will read the source for one voice (from the EDITOR), and generate the proper DATA statements (object code for the PLAYER) and a printed report. The COMPILER must be used three times, once for each voice. The PLAYER operation was also described, with the article telling how to merge the DATA statements with the PLAYER program. Note! PLAYER I, published in this issue, did not run on the vertical blank, and could not be merged with your own program.

SoftSide #36 January 1983

Part Two told how to update PLAYER I into PLAYER II, which did work on the vertical blank and could be merged with your own ATARI BASIC programs. Special mention was made about why the PLAYER running on the vertical blank should be stopped only by using SYSTEM RESET, and that the program should not end or be stopped by the BREAK key, for fear of a system crash. Mention was also made of how music playing could be temporarily frozen and continuedby poking

zero and one, respectively, into location ACTIVE (1536).

SoftSide #38 March 1983

Enhancements to the PLAYER and EDITOR were provided in Part Three. A USR function was given to solve the vertical blank stopping problem described earlier. An explanation was given on how to make notes more staccato (short and choppy) or legatto (long and smooth). This is called the "decay parameter". Further information was provided on how to read the compilation report generated by the COMPILER. Then came a big section of revisions for the EDITOR to make it initialize faster, and to give it additional commands. The first new command was PPPARM (parameter change), which let the noise and volume for a voice be changed. The noise could be changed to eight, to use with a snare drum, and the volume could be changed for special effects such as accented notes, or voice fades. Be aware that the PPPARM command resets the decay parameter which controls the staccato/legato nature of the note durations. The next special command was PPOFST (offset) which can be used for special purposes. Finally, the PPSTAT command was described, to make it easier to use POKEY PLAYER with ATARI BASIC programs. This command provides a communication link between the PLAYER and the program. It was also hinted how multiple PPSTOP (also called PPHALT) commands could be embedded in the music, causing the PLAYER to freeze until reactivated after each stop by poking ACTIVE. Further advice was given on how to use the EDITOR. The article also contained an inaccuracy when it labeled the EDITOR modifications to be POKEY PLAYER 3 by Craig Chamberlain, and said to merge them with the PLAYER. This is entirely incorrect. The program listing should have been labeled EDMODS (EDITOR MODIFICATIONS) by Harry Bratt, and should be merged with the EDITOR, not the PLAYER. SoftSide goofed.

All people who create music for POKEY PLAYER are encouraged to send their work to Craig Chamberlain, 17094 Dunblaine, Birmingham, MI 48009. These persons will be the first to receive any revisions to POKEY PLAYER.

POKEY PLAYER was created by Harry Bratt and Craig Chamberlain.

FROM THE DEPTHS OF
THE MACE SONGBOOK

VISICALC

[ala' "Let's Get Physical", made popular by Olivia Newton-John]
(for your convenience printed in MACE's patented "clip and burn" format.)

I'm savin' all those back issues of "Byte"
Making the micro conversion
I gotta handle text just right
Ya know what RAM means?

I took you to a local computer faire
Then a high-tech shopping spree
There's nothing left to purchase now
'less it's, programmability...

Let's get VisiCalc, VisiCalc
I wanna get Visi-Calc, let's invoke VisiCalc
Let me hear your modem talk, and floppies squawk
Let me hear your I/O rock...

I've used paper, I've used pen
Tried to keep my words on the table
It's getting tough, this hardware stuff
And all my disks are unlabled...

Let's get VisiCalc, VisiCalc
I wanna get Visi-Calc, let's invoke VisiCalc
Let me model Wall Street dips, analysts tips
Forget about the power hits...

I'm sure you understand what Ataris do
You know the software intimately
This crazy financial code's bringin'
Out the Star Raider in me...

Let's zap Aliens, Aliens,
I want to zap Aliens, scaly green Aliens.
Let me see those photons hiss, the Zylons miss
Hyperspace is solid bliss...

[At this point entropy sets in...]

Original material by Randal L. Schwartz / Atari translation by Arlan Levitan
Randal L. ("little old song stealer") Schwartz, Tektronix Engineering Computing Systems (the UNIX folks), Wilsonville, Oregon, USA

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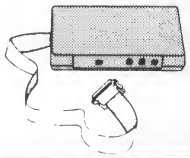

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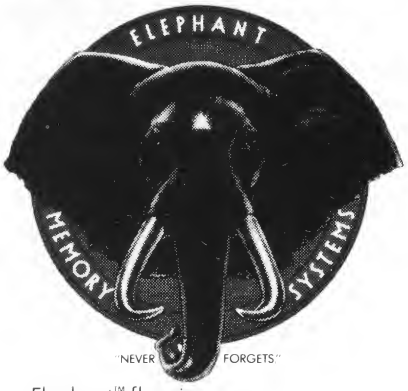
BMC-12AU

REMEMBER.



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reprinted from May '83 ACE Newsletter

```
100 REM xxxxxxxxxxxxxxxxxxxx
110 REM xx    WILDWEST    xx
111 REM xx                xx
115 REM xx       BY       xx
117 REM xx                xx
120 REM xx   STAN OCKERS  xx
130 REM xxxxxxxxxxxxxxxxxxxx
140 GOSUB 450:GRAPHICS 0:POKE 756,CSPAGE:GOSUB 610:GOSUB 860:GOSUB 1000:GOSUB 1110:GOSUB 1330
150 ? "Press START to begin"
160 IF PEEK(53279)<>6 THEN 160
170 GOSUB 580:RESTORE 180:FOR J=704 TO 712:READ A:POKE J,A:NEXT J:BKG=56
180 DATA 0,44,92,34,66,14,50,0,56
190 DIF=1:SCORE=0:HATS=4:? CHR$(125):POSITION 21,0:? "dif   score   high":POKE 1761,100:POKE 1762,100
200 FOR J=53248 TO 53251:POKE J,100:NEXT J:POKE 1763,2:POKE 1766,200:POKE 1767,40:GOSUB 1370:BONUS=1000
210 Y=20:FOR X=3 TO HATS*3 STEP 3:GOSUB 840:NEXT X:POSITION 14,0:? HIGH:A=USR(1536):POKE 559,46:POKE 53277,3
220 IF PEEK(53279)=5 THEN DIF=DIF+1:IF DIF=10 THEN DIF=1
230 POSITION 2,0:? DIF:FOR J=1 TO 100:NEXT J:IF PTRIG(0)=1 THEN 220
240 GOSUB 1370:POKE 1760,0:POKE 1781,0:POKE 1768,0:POKE 77,0
250 IF RND(0)<0.01*DIF THEN POKE 1780,1
260 INCR=SCORE+PEEK(1768)*5:POSITION 6,0:? INCR
270 IF PEEK(1760)=0 THEN 250
280 SCORE=INCR:SOUND 1,0,0,0
290 IF SCORE>BONUS THEN BONUS=BONUS+1000:IF HATS<9 THEN HATS=HATS+1:Y=20:X=3*HATS:GOSUB 840
300 IF PEEK(1768)<PEEK(1769) THEN GOSUB 730:GOTO 320
310 DIF=DIF+1:IF DIF>9 THEN DIF=9
320 IF HATS=0 THEN 350
330 GOTO 220
340 REM * game over routine *
350 POSITION 1,7:? " ##   #  #   # ##    ##  #   # ##  ##"
360 POSITION 1,8:? "#  # # # ## ## #    #  # #   #  #  #  #"
370 POSITION 1,9:? "#    # # # # # ##   #  # ## ## ## #  #"
380 POSITION 1,10:? "# ## ### #   # #    #  #  # #  #  ###"
390 POSITION 1,11:? "#  # # # #   # #    #  #  ###  #  #  #"
400 POSITION 1,12:? " ##  # # #   # ##    ##    #   ## #  #"
410 IF SCORE>HIGH THEN HIGH=SCORE
420 IF PEEK(53279)<>6 THEN 420
430 GOTO 190
440 REM * change character set *
450 DIM MCS$(42):RESTORE 460:FOR J=1 TO 42:READ A:MCS$(J,J)=CHR$(A):NEXT J
460 DATA 104,169,0,133,203,133,205,169,224,133,204,165,106,56,233,5,133,106,24
470 DATA 105,1,133,206,162,4,160,0,177,203,145,205,200,208,249,230,204,230,206,202,208,242,96
480 A=USR(ADR(MCS$)):CSPAGE=PEEK(106)+1:CS=256*CSPAGE
490 RESTORE 500:FOR J=CS+8 TO CS+63:READ A:POKE J,A:NEXT J:RETURN
500 DATA 128,2,32,1,134,1,32,8
510 DATA 2,8,128,2,64,8,32,2
520 DATA 32,130,12,28,20,20,20,20
530 DATA 0,0,8,9,9,9,10,10
540 DATA 0,0,128,128,128,128,128,128
550 DATA 10,10,10,143,143,138,170,0
560 DATA 128,128,128,200,200,136,168,0
570 REM * change display list *
580 DL=PEEK(560)+256*PEEK(561):POKE DL+3,70:POKE DL+6,6:FOR J=DL+7 TO DL+28:POKE J,4:NEXT J
590 RETURN
600 REM * instructions *
```

```
610 POKE 752,1:POSITION 5,1:? " ♦ ♦ ♦ WILDWEST ♦ ♦ ♦"
620 POSITION 2,3:? "Dynamite Dan has it in for you."
630 ? "He drops lighted sticks from the":? "top of the screen at rates which"
640 ? "vary with the difficulty level.":? "Using paddle zero you move a sombrero"
650 ? "to catch them before they reach the":? "bottom and explode.  Each time you"
660 ? "miss you lose a hat.  Lose all hats":? "and the game is over."
670 ? :? "The difficulty level goes down on":? "each miss, increases with each"
680 ? "sucessful group.  You may also change":? "the difficulty level with the SELECT"
690 ? "key during breaks.  You get a bonus":? "hat every 1000 points.  Use START to"
700 ? "restart the game.":? :? "Initalization takes 18 seconds.":? "INITIALIZING"
710 RETURN
720 REM * explosion routine *
730 X=0:J=0:COL=20
740 IF PEEK(1664+X)=0 THEN 780
750 P=PEEK(1724+X)+PEEK(1736+X)*256:POKE P,1:POKE P+1,2:J=J+1:IF J=4 THEN J=0
760 FOR K=0 TO 2:SOUND J,50+RND(0)*50,8,13+K:NEXT K:POKE 712,COL+8*X
770 POKE P,PEEK(1712+X):POKE P+1,0:FOR L=1 TO 30*RND(0):NEXT L
780 X=X+1:IF X<12 THEN 740
790 SOUND 0,0,0,0:SOUND 1,0,0,0:SOUND 2,0,0,0:SOUND 3,0,0,0:POKE 712,BKG
800 X=HATS*3:Y=20:POSITION X,Y:? "  ":POSITION X,Y+1:? "  ":HATS=HATS-1
810 DIF=DIF-1:IF DIF=0 THEN DIF=1
820 RETURN
830 REM * print hat *
840 POSITION X,Y:? "$%":POSITION X,Y+1:? "&'":RETURN
850 REM * PM graphics *
860 DIM X$(1):A=ADR(X$):B=INT((A-512)/1024+1)*1024:DIM F$(B-A+511):DIM P0$(128)
870 DIM P1$(128),P2$(128),P3$(128):POKE 54279,B/256
880 DIM C1$(15):RESTORE 890:FOR J=1 TO 15:READ A:C1$(J,J)=CHR$(A):NEXT J
890 DATA 16,56,186,124,0,40,0,40,16,198,170,146,130,68,68
900 P0$(1)=CHR$(0):P0$(128)=CHR$(0):P0$(2)=P0$:P1$=P0$:P2$=P0$:P3$=P0$:P0$(26)=C1$
910 DIM C2$(11):RESTORE 920:FOR J=1 TO 11:READ A:C2$(J,J)=CHR$(A):NEXT J
920 DATA 124,254,254,124,56,16,0,0,0,198,130
930 P2$(30)=C2$
940 DIM C3$(6):RESTORE 950:FOR J=1 TO 6:READ A:C3$(J,J)=CHR$(A):NEXT J:P3$(34)=C3$
950 DATA 170,184,170,184,170,184
960 DIM H$(9):RESTORE 970:FOR J=1 TO 9:READ A:H$(J,J)=CHR$(A):NEXT J:P1$(80)=H$:POKE 53257,1
970 DATA 124,198,124,124,56,56,56,56,40
980 RETURN
990 REM * various strings *
1000 DIM CSND$(15):RESTORE 1020:FOR J=1 TO 15:READ A:CSND$(J,J)=CHR$(A):NEXT J
1010 A=ADR(CSND$):HI=INT(A/256):LO=A-256*HI:POKE 1774,LO:POKE 1776,HI
1020 DATA 30,142,1,25,140,1,20,138,1,15,138,1,0,0,0
1030 DIM DSPD$(9):RESTORE 1040:FOR J=1 TO 9:READ A:DSPD$(J,J)=CHR$(A):NEXT J
1040 DATA 5,5,4,4,4,3,3,2,2,2,1,1
1050 DIM DDLY$(9):RESTORE 1060:FOR J=1 TO 9:READ A:DDLY$(J,J)=CHR$(A):NEXT J
1060 DATA 30,25,20,15,10,5,5,5,5
1070 DIM CNT$(9):RESTORE 1080:FOR J=1 TO 9:READ A:CNT$(J,J)=CHR$(A):NEXT J
1080 DATA 15,20,25,30,35,40,45,50,55
1090 RETURN
1100 REM * create VBI string *
1110 DIM VBI$(398):RESTORE 1120:FOR J=1 TO 398:READ A:VBI$(J,J)=CHR$(A):NEXT J:RETURN
1120 DATA 173,234,6,240,57,206,236,6,16,52,173,238,6,133,208,173,240,6,133,209,172,242,6
1130 DATA 177,208,240,21,141,0,210,200,177,208,141,1,210,200,177,208,141,236,6,200,140,242,6
1140 DATA 208,14,169,0,141,0,210,141,1,210,141,234,6,141,242,6,216,173,224,6,240,3,76,98,228
```

```
1150 DATA 173,112,2,73,255
1160 DATA 141,1,208,141,226,6
1170 DATA 173,225,6,24,109,227,6,205,230,6,176,27,205,231,6,144,22,141,225,6,141,0,208,141,2,208,141,3,208
1180 DATA 173,244,6,240,13,169,0,141,244,6
1190 DATA 173,227,6,73,255,141,227,6,206,228,6,16,78,173,245,6,205,233,6,176,70,173,229,6,141,228,6
1200 DATA 162,11,189,128,6,240,5,202,16,248,48,52
1210 DATA 165,89,157,200,6,165,88,24,105,120,157,188,6,144,3,254,200,6,173,225,6,157,164,6,56,233,40
1220 DATA 74,74,24,125,188,6,157,188,6,144,3,254,200,6,169,1,157,128,6,141,235,6,238,245,6
1230 DATA 162,11,189,128,6,240,110,222,140,6,189,140,6,16,102,189,152,6,157,140,6,189,188,6,133,208,189,200,6
1240 DATA 133,209,189,176,6,160,0,145,208,165,208,24,105,40,133,208,157,188,6,144,5,230,209,254,200,6
1250 DATA 254,212,6,189,212,6,201,11,144,28,201,17,176,24,189,164,6,24,105,9,205,226,6,144,13
1260 DATA 56,233,18,205,226,6,176,5,144,30,24,144,165,189,212,6
1270 DATA 201,20,144,8,169,1,141,224,6,24,144,42,177,208,157,176,6
1280 DATA 169,3,145,208,24,144,27,169,1,141,234,6,169,0,157,128,6,157,212,6,157,176,6
1290 DATA 238,232,6,173,232,6,205,233,6,176,209,202,16,196
1300 DATA 169,0,141,2,210,141,3,210,162,11,189,128,6,208,6,202,16,248,76,98,228
1310 DATA 165,20,41,1,141,2,210,169,6,141,3,210,24,144,235
1320 REM * insert VBI *
1330 RESTORE 1350:FOR J=1536 TO 1545:READ A:POKE J,A:NEXT J
1340 VBI=ADR(VBI$):HI=INT(VBI/256):LO=VBI-256*HI:POKE 1538,LO:POKE 1540,HI:RETURN
1350 DATA 104,160,0,162,0,169,7,76,92,228
1360 REM * init. page 6 values *
1370 FOR J=1664 TO 1675:POKE J,0:NEXT J:FOR J=1748 TO 1759:POKE J,0:NEXT J
1380 A=ASC(DSPD$(DIF)):FOR J=1676 TO 1699:POKE J,A:NEXT J
1390 A=ASC(DDLY$(DIF)):POKE 1764,A:POKE 1765,A
1400 A=ASC(CNT$(DIF)):POKE 1769,A:POKE 1768,0
1410 RETURN
```

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Assembler SIG

By Phil Heavin, Secretary, SIGASM

April Meeting Minutes

This month our business meeting was even shorter than our usual brief meeting and then we proceeded with a session presented by Tom Hunt. Tom showed how he started with the example program that I wrote for the Assembler SIG and changed it one step at a time into a program that looked amazingly similar to MEGAMANIA, a popular VCS game. Tom showed us the program as it appeared at each step of its development from the example program. Some, or all, of these stages will be added to the SIGASM disk that is available to SIGASM members.

During the casual portion of our meeting several of us demonstrated our latest projects. Also, we spent an hour or so in informal discussions helping each other with our latest problems and analyzing the latest new games.

June's Meeting

June's meeting will be Thursday, the 2nd at the home of Al Meloche in Warren. You can contact Al at 775-6895 or me at 939-6213. The meeting will begin at 7:00 with socializing and free form discussion with the actual business portion starting at 7:30. We hope to see you there.

AtariWriter

Review by Arlan R. Levitan

[Editor's Note: This article, in a slightly different form, will be published in a future issue of SoftSide magazine. Contrary to normal MACE policy, it may not be reprinted without the expressed written consent of SoftSide Publications and the author.]

I first met my friend AtariWriter in January 1983, and though the meeting was brief, I had a hunch we'd be seeing a lot of each other in the months to come. I turned out to be right.

While the star of the Atari Exhibit at the Winter '83 Consumer Electronics Show was the Atari 1200XL computer, I avoided the crowd around the new machine and took about an hour to play with a new word processor called, appropriately enough, AtariWriter. My first impressions were extremely favorable and I spoke well of the product in my coverage of the CES show in the M.A.C.E. newsletter. So when AtariWriter project manager Gary Furr called and asked if I would like an advance copy for review I didn't have to think twice about saying yes.

I'm glad to say that my first impressions have been confirmed. Given a proper printer, AtariWriter is an excellent and well designed writing and printing tool. I've used it for about two months now to create numerous types of written work, including this review. Before getting down to brass tacks a little Atari Word Processing history is in order.

1981 saw the introduction of Datasoft's popular Text Wizard package and LJK's Letter Perfect. Text Wizard was preferred by the majority of casual users. It's clear tutorials and common sense assignment of command functions made it easy to learn and master. Letter Perfect was more often the choice professional writers who desired features more akin to dedicated word processing systems. Memorizing it's multitude of commands and wading through the lengthy and sometimes confusing LJK documentation was a task reserved for those hardy souls. It's use of non-standard file structures did not endear it to anyone either.

The public was tantalized for about a year by slick promotional material out of Sunnyvale before Atari's first shot at computerized document writing actually appeared. The Atari Word Processor released in early 1982, was beautifully packaged, technically elegant, and a sheer horror for the average home user to master. Don't take my word for it: Atari discontinued the product in April of this year.

The good news is that AtariWriter is a worthy successor to all of these packages. It is the culmination of a careful examination of what John (or Joan) Q. Public really needs for home or light business word processing, and it shows.

AtariWriter's high level of quality comes as no surprise to dedicated Atari watchers. It had long been rumored that Bill Robinson, author of Text Wizard, had been lured by Atari from work on a new release of "the Wiz" and engaged to produce a new word processor. Robinson's attention to detail and (dare I say it?) user-friendly operation pervade AtariWriter and make it a joy to work with.

AtariWriter in Action

Upon booting up the 16K cartridge based program, the Atari logo glares at you for a few seconds while the system loads the Disk Operating System (DOS) from a diskette you supply. Once DOS is loaded the familiar Fuji symbol disappears and AtariWriter's main menu is displayed.

In disk based systems a maximum of 20,704 bytes of memory are available for text entry. This translates to an in-memory capacity of about fifteen double spaced pages of text. Longer documents may be created by chaining files together. On a cassette based system a maximum of 26,332 bytes are available since DOS is not used.

Wait a minute! I can hear the shouts out there; Did you say cassette? I sure did. While using a disk for text storage is certainly faster and more convenient than

tape, AtariWriter works just fine with the Atari 410 or 1010 program recorders. Just remember to save multiple copies of your files on tape since cassette data storage is inherently less reliable than disk.

AtariWriter's main menu presents you with a choice of eight "entrees". Each option may be selected by entering it's first letter (shown in inverse) with a single keystroke.

Before getting into the meat of the program, let's examine the "Format Disk" option first, which although of limited use in practice, illustrates how well thought out AtariWriter is. Well, the option is fairly self explanatory. You would only use this option if a formatted disk were not already at hand. Accidentally hitting "F" from the main menu could potentially destroy valuable data on a disk in your drive, right? Wrong!

Selecting "F" from the main menu brings up a prompt: "FORMAT DISK - ARE YOU SURE, Y/N?" Responding with anything other than "Y" or "YES" aborts the operation. This design is extended to any operation which could possibly result in the destruction of large amounts of your data. Attempting deletion of large blocks of in-memory text or writing over existing disk files also require verification. I've lost more than a few pieces of work due to careless actions, and I welcome these prompts. They are not excessive and do not become tedious with extended use of AtariWriter.

Either the "C" (create) or "E" (edit) menu selection may be used to create a new file. If no file is currently in memory the end result is the same. You are presented with AtariWriter's Edit Mode screen. You would normally use "C" if you are finished editing a file and want to begin a new one. Create will prompt you for verification before destroying your old in-memory text and only then proceeds with a fresh edit screen for your new project.

The default Edit screen is 21 lines high with 36 characters per line. Upon entry to the Edit mode a Print formatting block showing the default values of print options is automatically inserted as the first line of your text. More on print formatting later. The bottom three lines of the screen continually display your current tab settings (which may be changed from the program defaults), the name of the disk file text was last loaded from or written to, and the current line and column position of the cursor.

Fine cursor movement is via the familiar CTRL arrow keys of the Atari keyboard. Gross cursor movement commands include

CTRL/A - Beginning of Line
CTRL/Z - End of Line
SELECT/T - Top of File
SELECT/B - Bottom of File
OPTION/↑ - Move Up One Screen
OPTION/↓ - Move Down One Screen

Get the picture? The commands are not only useful, but more importantly, the key assignments for them make sense and are easy to remember.

All text entry is done in an Insert mode. This means that corrections must be made by deleting unwanted text rather than typing over it. While this may sound cumbersome, in practice it is not. As a matter of fact, most writers I know prefer this type of arrangement. Extensive facilities for deletion of text simplify matters greatly. Single charcters, text to end of line, marked blocks of text, and all text to end-of-file may be easily deleted.

Text entry is quick, smooth, and remains so even when memory is close to full. The amount of free memory left may be checked by pressing OPTION/F. As in Text Wizard, word wrap is automatic. If a word does not end by the time the right margin is encountered, it is moved down to the next line.

A valuable feature is the inclusion of a "fail-safe buffer" with a capacity of about thirty lines of text. For instance, if you use the delete to end of line function (which does not ask for an affirmative reply) and decide you really didn't want to erase those few golden pearls of wisdom, pushing START/INSERT will rescue the last deleted block of text from the bit-bucket and reinsert it in it's original location.In

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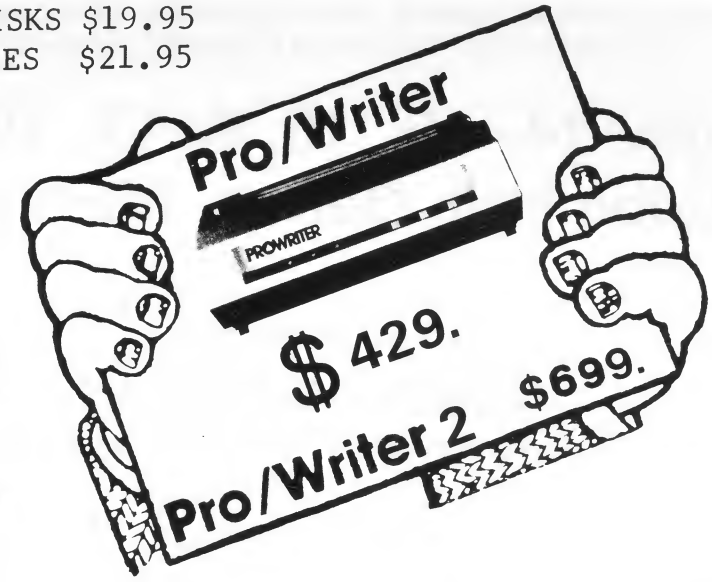

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addition, the fail-safe buffer is used to move and duplicate marked blocks of text.

The search and replace functions could have been a bit more polished. The global replace function is fine but, I found it impossible to define a replacement string just once and do a selective search and replace through an entire file. This is the one spot in AtariWriter in which the number and frequency of prompts were too tedious for my tastes. Another limitation is the programs refusal to accept control codes as part of a search or replace string.

Additional editing features are icing on the cake. The use of CTRL/P as a paragraph marker eliminates the need for entering indents at the beginning and blank lines at the end of paragraphs, a nice touch. Files stored on tape or disk may be merged into your in-memory text. You can even selectively change the case of letters from upper to lower and vice-versa.

Extensive print formatting commands are available. Text may be centered or blocked right. While a ragged right margin is AtariWriter's default, you may opt for both left and right justification. Justification may also be switched on an off within the body of your document.

The top, bottom, left and right margins, and number of lines per printed page may be set according to your tastes and changed on the fly. Paragraph spacing and indentation may also be modified.

Footers, Headers, and Auto Page numbering are supported and will work well with most printers. A facility for numbering indented lists is also available. This is especially helpful for printing short outlines.

Special print functions such as underlining, sub and superscripts, double column printing, and elongated, compressed, and proportional character sets are supported on some printers, most notably the Atari 825.

Even with all this, AtariWriter's most unique feature is it's Print Preview option. This feature allows you to check how your document will look on paper before printing it on paper. And in Print Preview mode AtariWriter is page as well as file oriented.

Print Preview is selected from the edit mode by pressing OPTION/P. You are then asked if you wish to preview the entire file. If you answer yes, one page of your text is formatted at a time and presented to you in a form you may inspect for correct appearance and layout. AtariWriter overcomes the restrictions of its thirty-six column display by turning your screen into a scrollable window which you may move over a representation of what would be printed based upon the contents of your text file. The model is actually held in memory and can preview documents up to one hundred and thirty two columns wide.

The advantages of using Print Preview should not be discounted. Regular use of the option will reduce both your printer paper expenses and level of frustration. I first came to appreciate it in producing a rush document for work late at night. The text contained large amounts of column oriented data. Without Print Preview I would have been tearing my hair out at four in the morning while my printer hammered away at my umpteenth attempt to get things just right. As it was, I got to sleep before midnight with my perfect columns of text safely tucked beneath my pillow. Print Preview, I love you.

If you elect not to preview the entire document you will be prompted for the beginning and ending page numbers to preview, this is especially useful if you have already previewed and corrected a number of pages. No need to waste time looking at those again!

Pressing the ESCape will exit you from print preview mode and return to the main menu. As a matter of fact, it will return you to the main menu from Edit mode or any prompt without disturbing your working text.

The "Save File" option will transfer a copy of your in-memory text to disk or cassette. It's a good idea to save the file your working on every so often so that a

system or power failure will be a minor rather than major catastrophe. Admittedly this is more practical for disk users, given the length of time associated with saving data to tape.

The "Index of Disk Files" option will display a disk directory of Drive #1 only, although you may save or load data to and from any drive. You may choose to print the directory as well.

The "Load File" option will transfer text files saved on disk or cassette into memory so it may be edited or printed. If you attempt to load a file over text already in memory, you will be asked "ERASE FILE IN MEMORY? (Y/N)" in case you meant to save your in-storage work first.

"Delete File" will erase the file you specify from your data diskette. You are prompted here also for confirmation since no facility exists within AtariWriter itself for locking files against deletion. Wild cards are not permitted here or in response to any prompt that asks for a file name.

The "Print File" option of the main menu takes your in-memory file and slaps it on your hopefully trusty printer, which is after all, what this whole business is about. You may opt to print an entire document or a range of pages. Once started the printing process may be aborted by pressing the BREAK key.

While we're on the subject of printing, let's discuss AtariWriter's printer support. AtariWriter out of the box fully supports only Atari printers, namely the 1025, 825, 820, and 822 models. The less said about the 820 and 822 the better, but the 825 is the only one of the four that implements every special printing capability of AtariWriter. While the 825 isn't state of the art I was disappointed to hear that it has been discontinued by Atari. Fortunately, Centronics (the folks who made the 825 for Atari) still markets it's Model 739 printer which acts just like an 825 as far your Atari is concerned and boasts dot graphics, bidirectional printing and improved single sheet loading to boot.

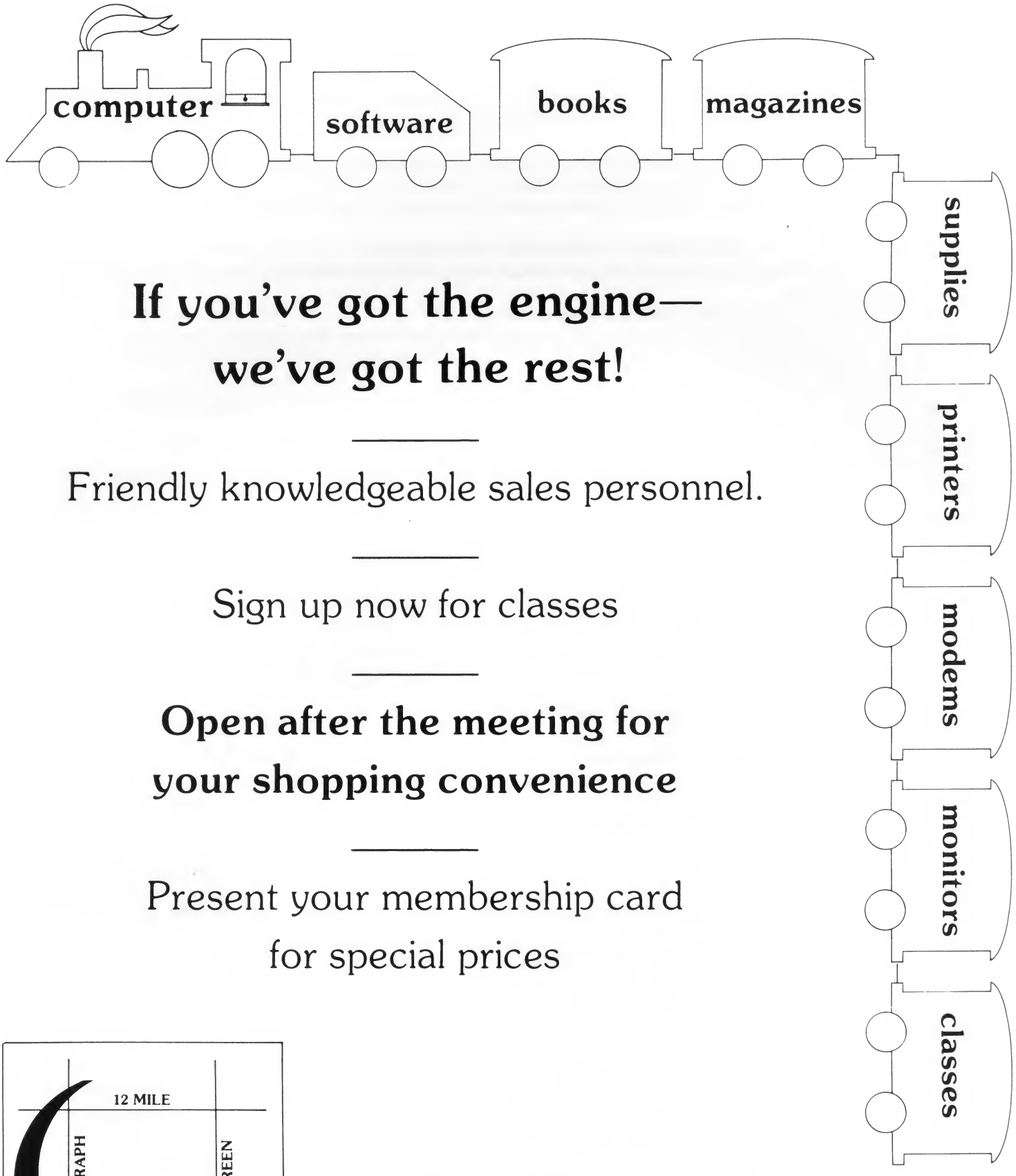
But what about folks who already own perfectly fine printers made by other manufacturers? AtariWriter doesn't know anything about those printers control codes for special functions. While both the letter that accompanied my review copy, and the documentation itself refer to AtariWriter drivers for other popular printers being available from the Atari Program Exchange, no such drivers are available as these words are written. Hopefully they will be forthcoming soon. You can call the APX at 800-538-1862 (800-672-1850 in California) to check on the availability and cost of an appropriate driver for your printer before rushing out and buying AtariWriter.

AtariWriter is certainly not perfect. It does have some limitations. Since control characters are not represented on the screen in their actual internal form it is unsuitable for use as a source text editor for languages like Atari Basic, which make heavy use of those characters. And though a form letter option of sorts is built in to the program, it's a far cry from a true mailing list merge.

Back on the upbeat side, disk files created by AtariWriter are in standard DOS format. This makes AtariWriter files easy to manipulate with other programs, including DataSoft's new SpellWizard spelling checker. Modem owners can easily transfer AtariWriter files over phone lines using any terminal program with upload and download capabilities.

The documentation supplied is written in a lucid and straightforward style. A manual is fully indexed and an included function summary card makes finding command information a breeze.

In short, AtariWriter is my first choice for Word Processing honors on the Atari. If you use a supported printer, it's hard to beat for versatility and ease of use. At a cost at $79.95, it's a true bargain and hard to be beat at twice the price. AtariWriter is a Home Run in any ballpark in the home computer league.



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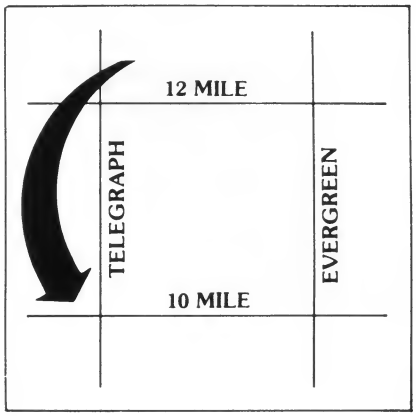

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COURTING CRICKETS

by Stan Ockers

reprinted from April '83 ACE Newsletter

```
1 REM **********************************
2 REM ** CRICKETS by Stan Ockers *
3 REM **********************************
140 ? "INITIALIZING ....."
150 DIM D$(1),F$((INT(ADR(D$)/2048)+1)*2048-ADR(D$)-1),DD$(1024),P0$(256),P1$(256),P2$(256),P3$(256)
160 DIM BL$(13),CR$(12),CRJ$(12),CRF1$(12),CRF2$(12),CRM$(12),STK$(32),HT1$(12),HT2$(12),SND$(173):HI=ADR(DD$)/256
170 DIM GF1$(15),GF2$(15),DRP$(13),CUR$(12),COLDR$(4):GF1$="HIXLMXPQXTUXXXX":GF2$="JKXNOXRSXVWXZCX"
180 REM ** Joystick Routine **
190 RESTORE 200:FOR J=1 TO 32:READ A:STK$(J,J)=CHR$(A):NEXT J:STK=ADR(STK$)
200 DATA 104,173,132,2,240,12,173,207,6,240,20,169,0,141,207,6,240,13,173,207,6,208,8,173,120,2,41,3,141,207,6,96
210 REM ** Sound Data **
220 RESTORE 230:FOR J=1 TO 173:READ A:SND$(J,J)=CHR$(A):NEXT J
230 DATA 0,60,3,70,3,80,3,90,3,100,3,100,3,0,0,108,10,108,10,108,10,81,20,64,10,108,10,108,10,108,10,81,20
240 DATA 64,10,0,30,53,10,85,10,53,10,96,10,53,10,96,10,53,10,91,20,102,10,108,10,108,10,85,20,72,10,108,10
250 DATA 108,10,108,10,85,20,72,10,0,50,53,15,47,5,53,10,60,10,64,10,72,10,81,20,40,20,0,0
260 DATA 121,40,91,30,91,10,91,80,121,40,81,30,96,10,91,80,121,40,91,30,72,10,60,40,72,30,91,10,91,40,96,30
270 DATA 91,10,81,80,0,0,243,40,243,40,243,10,243,40,204,40,217,10,217,40
280 DATA 243,10,243,40,255,10,243,60,0,0,47,10,72,10,60,10,64,10,72,10,64,10,60,10,72,10,0,0
290 HS=INT(ADR(SND$)/256):POKE 209,HS:LS=ADR(SND$)-HS*256:POKE 208,LS:SOUND 3,0,0,0
300 DIF=1
310 REM ** DD$ is Screen Data **
320 DD$(1)="@":DD$(448)="@":DD$(2)=DD$:DD$(449)=CHR$(0):DD$(828)=CHR$(0):DD$(450)=DD$(449)
330 LINE1=ADR(DD$)+513:HL=INT(LINE1/256):LL=LINE1-HL*256:POKE 88,LL:POKE 89,HL
340 POKE 559,0:GOSUB 1140:GOSUB 1330:GOSUB 1530
350 GRAPHICS 0:POKE 756,START/256:GOSUB 1380:POKE 559,0:POKE 560,0:POKE 561,6:POKE 559,34:GOSUB 1710
360 A=USR(1670):VERT=8:GOSUB 1780:POKE 88,LL:POKE 89,HL:POSITION 12,0:? DIF:BRO=0
370 POKE 708,68:POKE 709,254:POKE 710,86:POKE 711,44:POKE 712,72:POSITION 16,7:? " courting crickets "
380 POSITION 2,0:? "dif level":RESTORE 382:FOR J=1 TO 4:READ A:COLDR$(J,J)=CHR$(A):NEXT J
382 DATA 228,36,4,230
390 DD$(613,652)="YYYYYYYXXXXXYYYYYYYXXXXXYYYYYYYXXXXXYYYYYY"
400 DD$(653,692)="YYYYYYYXXXXXYYYYYYYXXXXXYYYYYYYXXXXXYYYYYY"
410 DD$(693)="_♦XX_♦XX_♦":DD$(769)="abXXabXXabX"
420 GN=0:WFLG=0:GIFT=0:DROP=0:DD$(552)="XXXXXXXXXXXXXX":DD$(592)="XXXXXXXXXXXXXX"
430 POKE 1622,15:DD$(712)=GF1$:DD$(788)=GF2$
440 POSITION 16,7:? "SELECT dif or FIRE":POKE 77,0
450 IF STRIG(0)=0 THEN 450
460 KEY=PEEK(53279):IF STRIG(0)=0 THEN 500
470 IF KEY<>5 THEN 460
480 DIF=DIF+1:IF DIF>7 THEN DIF=1
490 POSITION 12,0:? DIF:GOSUB 1780:GOTO 460
500 POSITION 16,7:? " COURTING CRICKETS ":GOSUB 1000:DD$(712)="XX":DD$(788)="XX"
510 A=USR(ADR(STK$))
520 IF GIFT=1 AND YPOS=187 AND P>100 AND P<134 THEN GOSUB 820:GOSUB 790
530 IF PEEK(1743)=0 THEN FLAG=0
540 IF FLAG=1 THEN 580
550 S=PEEK(1743):IF S=2 OR S=1 THEN FLAG=1:P0$(YPOS)=CRJ$:POKE 53767,170:POKE 1591,1:FOR J=1 TO 20:NEXT J
560 IF S=2 AND VERT>0 THEN POKE 1767+VERT,0:P0$(YPOS)=BL$:YPOS=YPOS-16:P0$(YPOS)=CR$:VERT=VERT-1:POKE 1767+VERT,1
570 IF S=1 AND VERT<8 THEN POKE 1767+VERT,0:P0$(YPOS)=BL$:YPOS=YPOS+16:P0$(YPOS)=CR$:VERT=VERT+1:POKE 1767+VERT,1
580 P=PEEK(1791):IF P>190 OR P<60 THEN POKE 1767+VERT,0:GOTO 710
590 POKE 53278,0
600 FOR J=1 TO 10:NEXT J
610 IF PEEK(53252)>0 THEN POKE 1767+VERT,0:GOTO 710
620 IF YPOS=59 AND P>100 AND P<134 THEN POKE 1767+VERT,0:GOTO 840
630 JPOS=JPOS+DELJ:IF JPOS>RTLJ OR JPOS<LLJ THEN DELJ=-DELJ:JPOS=JPOS+2*DELJ
```

```
640 POKE 53250,JPOS
650 DRCNT=DRCNT-1:IF DRCNT<1 THEN DRCNT=10+5*(10-DIF):DPOS=50:GOSUB 950:P3$(DPOS)=DRP$:DROP=1:POKE 53251,JPOS
660 IF DROP=1 THEN P3$(DPOS)=BL$:DPOS=DPOS+DELTA:P3$(DPOS)=DRP$:SOUND 1,DPOS-40,10,10
670 IF DPOS>240 THEN GOSUB 820:DPOS=50
680 IF PEEK(53260)=8 THEN POKE 1767+VERT,0:GOTO 710
690 GOTO 510
700 REM ** Falling Cricket **
710 GOSUB 820
720 P0$(YPOS)=BL$:YPOS=YPOS+6:P0$(YPOS)=CRF1$:SOUND 0,YPOS,10,10:FOR J=1 TO 30:NEXT J
730 P0$(YPOS)=BL$:YPOS=YPOS+6:P0$(YPOS)=CRF2$:SOUND 0,YPOS,10,10:FOR J=1 TO 30:NEXT J:IF YPOS<240 THEN 720
740 SOUND 0,0,0,0
750 BRO=BRO+1:IF BRO=4 THEN 1030
760 J=4*(BRO-1):DD$(693+J,696+J)="XXXX":DD$(769+J,772+J)="\]^X"
770 VERT=8:GOSUB 1710:POKE 1791,120:POKE 1622,15:GOTO 510
780 REM ** Erase Next Gift **
790 GIFT=0:GN=GN+1:GOSUB 1000:DD$(712+GN*3)="XX":DD$(788+GN*3)="XX"
800 RETURN
810 REM ** Eliminate Drop **
820 SOUND 1,0,0,0:P3$(DPOS)=BL$:POKE 53251,0:DROP=0:RETURN
830 REM ** Reached Female **
840 GOSUB 820:POKE 1791,118
850 IF GIFT=0 THEN GOSUB 920
860 IF WFLG=1 THEN 1090
870 FOR K=1 TO 10:P1$(YPOS-14)=HT1$
880 FOR J=15 TO 0 STEP -1:SOUND 0,20,10,J:NEXT J:P1$(YPOS-14)=HT2$:FOR J=1 TO 15:NEXT J:NEXT K
890 IF STRIG(0)=1 THEN 890
900 P0$(YPOS)=BL$:P1$(YPOS-14)=BL$:S=1:GOTO 560
910 REM ** Print Gift **
920 GIFT=1:DD$(552)=GF1$(1,(GN+1)*3):DD$(592)=GF2$(1,(GN+1)*3):IF GN=4 THEN WFLG=1
930 RETURN
940 REM ** Pick a Weapon **
950 R=INT(RND(0)*4):RESTORE 960+10*R:FOR J=1 TO 13:READ A:DRP$(J,J)=CHR$(A):NEXT J:POKE 707,ASC(COLDR$(R+1))
952 RETURN
960 DATA 20,72,34,20,74,40,8,127,127,62,62,28,28
970 DATA 0,0,80,112,112,112,112,112,120,126,94,0,0
980 DATA 0,0,48,96,64,127,127,64,224,224,0,0,0
990 DATA 60,24,24,24,60,126,223,215,247,255,127,126,60
995 REM ** Pick Another Gift **
1000 POKE 1622,155:POKE 707,92:POKE 53251,124+12*GN:FOR J=1 TO 5:P3$(205)=CUR$:FOR K=1 TO 30:NEXT K
1010 P3$(205)=BL$:FOR K=1 TO 30:NEXT K:NEXT J:RETURN
1020 REM ** No More Brothers **
1030 POKE 1622,131:POKE 53277,0:FOR J=53261 TO 53264:POKE J,0:NEXT J:GRAPHICS 18:POSITION 4,3:? #6;"All Brothers"
1040 POSITION 6,4:? #6;"are Gone"
1050 POSITION 3,7:? #6;"PRESS start TO":POSITION 5,8:? #6;"try again"
1060 IF PEEK(53279)<>6 THEN 1060
1070 GOTO 350
1080 REM ** Marriage Takes Place **
1090 POKE 1622,93:FOR L=0 TO 6:FOR K=0 TO 3:POS=64*L+16*K:DD$(POS+1)="XXXXcdXXXXcdXXXX":NEXT K:NEXT L
1100 FOR J=1 TO 1000:NEXT J
1110 POKE 53277,0:FOR J=53261 TO 53264:POKE J,0:NEXT J:GRAPHICS 18:POSITION 3,3:? #6;"And They Lived"
1120 POSITION 1,4:? #6;"Happily Ever After":GOTO 1050
1130 REM * Change character set *
1140 DIM ZZ$(32):RESTORE 1150:FOR I=1 TO 32:READ A:ZZ$(I)=CHR$(A):NEXT I
1150 DATA 104,104,133,204,104,133,203,104,133,206,104,133,205,162,4,160,0
```

```
1160 DATA 177,203,145,205,136,208,249,230,204,230,206,202,208,240,96
1170 POKE 106,PEEK(106)-5:START=(PEEK(106)+1)*256
1180 A=USR(ADR(ZZ$),57344,START):RESTORE 1200:FOR I=START+512 TO START+807:READ A:POKE I,A:NEXT I
1190 RETURN
1200 DATA 0,0,0,0,0,0,0,170,0,63,58,57,58,63,63,170,0,252,172,108,172,252,252,170
1210 DATA 0,255,170,85,170,255,255,170,0,51,33,18,33,255,85,170,0,191,239,251,254,255,255,170
1220 DATA 0,255,215,215,215,190,235,170,0,254,251,239,191,255,255,170,0,1,32,184,32,12,3,16
1230 DATA 64,208,64,224,184,224,192,192,116,28,3,0,0,0,0,0,200,238,248,192,192,192,192,192
1240 DATA 0,0,0,0,2,2,3,3,0,0,0,0,128,128,192,192,13,55,219,222,223,55,13,3
1250 DATA 112,220,247,247,247,220,112,192,0,0,0,58,234,234,233,229,0,0,0,40,234,170,154,86
1260 DATA 233,233,57,58,58,14,14,13,86,90,90,104,104,160,160,128,0,3,12,48,192,192,48,12
1270 DATA 48,204,3,3,3,12,48,12,12,3,12,48,14,2,2,0,3,3,3,12,32,160,160,128
1280 DATA 0,0,0,0,0,0,0,0,233,181,173,183,222,122,94,107,2,10,2,4,16,16,4,1,128,160,128,16,4,4,16,64
1290 DATA 0,0,3,15,15,204,63,15,0,0,0,207,204,255,255,195,0,0,240,48,48,48,240,240
1300 DATA 0,0,84,5,17,5,1,5,0,0,21,80,68,80,64,80,17,6[illegible] 1,4,4,20,0,0
1310 DATA 68,65,64,16,16,20,0,0,40,190,179,176,176,44,[illegible]1,2,80,244,52,52,52,208,64,0
1320 REM ** VBI Routine **
1330 DIM VBI$(75):RESTORE 1340:FOR J=1 TO 75:READ A:VBI$(J,J)=CHR$(A):NEXT J:VBI=ADR(VBI$):RETURN
1340 DATA 216,162,0,160,0,222,240,6,16,42,189,22[illegible]6,157,240,6,189,232,6,240,10,24
1350 DATA 173,255,6,125,248,6,141,255,6,24,185,16,6,125,216,6,153,16,6,221,208,6,208,6
1360 DATA 189,200,6,153,16,6,200,200,200,232,224,7,144,201,173,255,6,141,0,208,32,57,6,32,88,6,76,98,228
1370 REM ** Display List in Page 6 **
1380 RESTORE 1390:FOR J=1536 TO 1679:READ A:POKE J,A:NEXT J
1390 DATA 112,112,112,70,0,0,68,20,0,68,60,0,69,100,0,69,0,0,69,80,0,69,128,0,69,208,0,69,0,0,69,80,0
1400 DATA 69,128,0,69,140,0,68,180,0
1410 DATA 68,0,0,70,40,0,65,0,6
1420 DATA 0,0,0,0,0,0,172,55,6,240,23,206,56,6,16,18,177,208,141,6,210,200
1430 DATA 177,208,240,5,141,56,6,200,152,141,55,6,96
1440 DATA 0,0,172,86,6,240,40,206,87,6,48,17,169,13,205,87,6,144,3,173,87,6,9,160,141,5,210,208,18,177,208
1450 DATA 141,4,210,200,177,208,240,5,141,87,6,200,152,141,86,6,96,104,160,0,162,0,169,7,76,92,228
1460 RESTORE 1470:FOR J=1541 TO 1583 STEP 3:READ A:POKE J,HI+A:NEXT J
1470 DATA 2,2,2,2,0,0,0,0,1,1,1,2,2,3,3
1480 RESTORE 1490:FOR J=1736 TO 1791:READ A:POKE J,A:NEXT J
1490 DATA 0,80,128,208,0,80,128,0,16,64,144,192,16,64,144,0,1,255,1,255,1,255,1,0
1500 DATA 20,12,9,12,15,18,21,0,0,0,0,0,0,0,0,0,20,12,9,12,15,18,21,0,252,4,252,4,252,4,252,120
1510 HV=INT(VBI/256):POKE 1674,HV:POKE 1672,VBI-256*HV
1520 RETURN
1525 REM ** PM Images **
1530 RESTORE 1540:FOR J=1 TO 12:READ A:CR$(J,J)=CHR$(A):NEXT J
1540 DATA 231,60,90,60,24,60,90,153,24,36,36,102
1550 RESTORE 1560:FOR J=1 TO 12:READ A:CRJ$(J,J)=CHR$(A):NEXT J
1560 DATA 66,36,60,90,60,153,126,24,24,60,66,195
1570 BL$(1)=CHR$(0):BL$(13)=CHR$(0):BL$(2)=BL$
1580 RESTORE 1590:FOR J=1 TO 12:READ A:CRF1$(J,J)=CHR$(A):NEXT J
1590 DATA 195,36,60,90,60,25,62,88,156,36,38,96
1600 RESTORE 1610:FOR J=1 TO 12:READ A:CRF2$(J,J)=CHR$(A):NEXT J
1610 DATA 195,36,60,90,60,152,124,26,57,36,100,6
1620 RESTORE 1630:FOR J=1 TO 12:READ A:CRM$(J,J)=CHR$(A):NEXT J
1630 DATA 66,165,60,90,36,24,126,153,60,126,36,102
1640 RESTORE 1650:FOR J=1 TO 12:READ A:HT1$(J,J)=CHR$(A):NEXT J
1650 DATA 0,216,248,248,112,32,0,27,31,31,14,4
1660 RESTORE 1670:FOR J=1 TO 12:READ A:HT2$(J,J)=CHR$(A):NEXT J
1670 DATA 0,27,31,31,14,4,0,216,248,248,112,32
1680 RESTORE 1690:FOR J=1 TO 12:READ A:CUR$(J,J)=CHR$(A):NEXT J
```

```
1690 DATA 68,238,254,254,254,254,254,124,124,56,56,16
1700 REM ** PM Init. **
1710 P0$(1)=CHR$(0):P0$(256)=CHR$(0):P0$(2)=P0$:YPOS=187:P0$(YPOS)=CR$
1720 P1$(1)=CHR$(0):P1$(256)=CHR$(0):P1$(2)=P1$:P2$(1)=CHR$(0):P2$(256)=CHR$(0):P2$(2)=P2$
1730 P3$(1)=CHR$(0):P3$(256)=CHR$(0):P3$(2)=P3$:P1$(60)=CRM$:P2$(44)=CR$:JPOS=100:DELJ=3:RTLJ=200:LLJ=50:DELTA=6
1740 POKE 54279,HI:POKE 559,62:POKE 53277,3:POKE 53248,120:POKE 704,116:POKE 53249,126:POKE 705,92
1750 POKE 53250,100:POKE 706,20:POKE 707,0:POKE 623,1
1760 RETURN
1770 REM ** Packages on Belts **
1780 DD$(1)="@":DD$(448)="@":DD$(2)=DD$
1790 FOR J=1760 TO 1766:SPEED=RND(0)*(9-DIF)*4+(7-DIF):IF DIF>3 THEN SPEED=SPEED*1.8
1792 POKE J,SPEED:NEXT J
1800 FOR L=0 TO 6:RESTORE 1850+10*L:READ F$:FOR K=0 TO 3
1810 POS=64*L+16*K:DD$(POS+1)=F$
1820 IF DIF>3 THEN DD$(POS+9)=F$
1840 NEXT K:NEXT L:RETURN
1845 REM ** CHAR. IN 1860,1880 & 1900 ARE INVERSE **
1850 DATA ACB
1860 DATA ACB
1870 DATA DDD
1880 DATA EFG
1890 DATA EFG
1900 DATA DDD
1910 DATA EFG
```

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